

**ARIZONA GAME AND FISH DEPARTMENT  
HABITAT PARTNERSHIP PROGRAM  
HABITAT ENHANCEMENT AND WILDLIFE MANAGEMENT PROPOSAL**

**PROJECT INFORMATION**

**Project Title:** Redevelopment of Catchments 45, 51, 52, and 106 – Phase 1 **Project No.** 07-517

**Region/GMU:** 5/37B **HPC:** Tucson

**Project Type:** Catchment Redevelopment

**Project Description:**

This project entails the redevelopment of catchments 45 (96 Ranch #1), 51 (96 Ranch #7), 52 (96 Ranch #8) and 106 (Owl's Head #8) in 2-3 phases within the next 2-3 years. Catchments 51, 52, and 106 were all listed as "first priority" catchments for redevelopment in the Wildlife Water Development Team Report dated 2002. The existing 2000 gallon concrete vault systems have approached the end of their time. On catchment 106, the lid for the storage vault has crumbled leaving it completely open for increased evaporation. Each of the systems also have numerous concrete cracks in both the aprons and the drinkers making them candidates for excessive water hauling. Each of the catchments will be redeveloped using 2- 3'x18' fiberglass ring tanks, a 3'x4' standard walk-in drinker and a 24'x96' R-panel collection apron. Each site will also receive a 150'x150' piperail fence to exclude livestock. Each system will have a storage capacity of 11,700 gallons. The Martin Group, LLC. has offered to donate their services to excavate the hole for catchment 106. They will supply a CAT loader to do this and have stated that if all goes well with 106, they will likely donate the same services for catchments 45, 51 and 52. Volunteers from the Arizona Deer Association, Mule Deer Foundation and local sportsmen solicited through Coues Whitetail.com will work on the project. Minimal oversight will be required from Development Branch.

**Wildlife Species to Benefit:** mule deer, javelina, small game and nongame wildlife

**Possible Funding Partners:**

**Implementation Schedule:**

**Beginning:** September 1, 2007

**Completed:** June 30, 2009

**NEPA Compliance: (if applicable)**

**Completed:** Yes ☒ No ☐

**Projected Completion Date:**

**PROJECT FUNDING**

**SBG Funds Requested:** \$56,520 (106 and 51) OR \$28,260 (106 only) – Phase 1

**Cost Share Funds:** \$40,000 (106 and 51) OR \$20,000 (106 only) – Phase 1

**Total Project Costs:** \$96,520 (106 and 51) OR \$48,260 (106 only) – Phase 1

**PARTICIPANT INFORMATION**

**Applicant:** Ben Brochu

(please print)

**Telephone:** (520) 229-3222

**Address:**

Arizona Game and Fish Department

555 N. Greasewood Road

Tucson, AZ 85745

**AGFD Contact and Phone No.**

**(If applicant is not AGFD personnel)**

**Coordinated with:** Joe Currie (AGFD), Rachel McGee and John Patton  
(ASLD)

**Date:** 8-6-07, 8-23-07

<b>Applicant's signature:</b>	<b>Date:</b>
-------------------------------	--------------

**SEND COMPLETED APPLICATIONS TO:**

**Game Branch  
2221 W. Greenway Rd.  
Phoenix, AZ 85023  
mdisney@azgfd.gov**

**WAS PROJECT PRESENTED TO THE LOCAL HPC?      YES   X        NO**

**HAS PROJECT BEEN SUBMITTED IN PREVIOUS YEARS? IF SO WAS IT FUNDED?**

A proposal for catchment 106 was submitted March 1, 2007. It was not funded.

**NEED STATEMENT/PROBLEM ANALYSIS:**

Game management unit 37B was once regarded as a premier mule deer unit. Beginning around 1995, mule deer numbers in the unit began to decline. They have not recovered since.

Mule deer numbers and distribution have been declining throughout the West since the latter third of the 20<sup>th</sup> century. To address this concern, the Western Association of Fish and Wildlife Agencies (WAFWA), an organization represented by 17 states and four Canadian provinces, created a Mule Deer Working Group (Group). Using adaptive resource management, the Group sent out to find “solutions to our common mule deer management problems” in the seven different ecoregions in North America. Overall, loss and degradation of habitat was determined to be the single greatest factor that has caused declines in mule deer. In the Southwest Desert Ecoregion, rainfall and competition with livestock were found to be the two biggest limiting factors. The number one recommendation of the Group to improve mule deer management in the Southwest Desert Ecoregion was to create sources of water in areas where water is limiting and where other potentially limiting factors are being addressed. Also, consistent with the Group’s recommendation is the Department’s Species Management Guidelines (SMG) which provides goals, objectives, strategies and procedures for a specific species. The SMG outlines four ways to improve and enhance deer habitat to accomplish the overall goal of increasing mule deer populations to levels that provide diverse recreational opportunities. Number one on the list is: Protect and maintain current water sources.

The systems currently in place were installed between the late 1940’s – 1960’s. They have reached the end of their lifespan. In 2002, a team was created to evaluate the Department’s wildlife water development program. The team created a Wildlife Water Development Team Report which provided recommendations, guidelines and priorities for water developments and redevelopments throughout the state. Catchments 51,52 and 106 were all listed as “first priority” catchments for redevelopment due to excessive water hauling. If evaluated today, all three catchments would receive the highest redevelopment priority status of WAR which stands for excessive **W**ater hauling plus failure-prone **A**pron and **R**ing tank/storage tank.

**PROJECT OBJECTIVES:**

- To increase deer and javelina populations by providing a dependable, long term, self-sustaining quality water source.
- To increase hunter opportunity.

- To install a system that has a long lifespan (40-50 years for storage and collection systems, 25 years for drinking troughs)
- To install a system that does not require supplemental hauling except in rare or exceptional circumstances
- To install a system that is accessible and that requires minimal routine maintenance

### **PROJECT STRATEGIES:**

Each project will be completed in the following way:

- **Components** - Utilize big game special tag funds to purchase the system components.
- **Excavating** - The Martin Group, LLC will donate their services to excavate catchment 106 using a CAT loader and will likely donate the same services for catchments 45, 51 and 52.
- **Labor** - Volunteers from the Arizona Deer Association, Mule Deer Foundation and local sportsmen solicited through Coues Whitetail.com will provide labor for the project.
- **Development Branch Involvement** – Development Branch will transport the project supplies to the site and provide any specialized equipment or tools required for the job. They would also provide 1-2 people for project supervision and oversight. This is expected to be minimal.

**All catchments will be redeveloped using the same components and design. System capacity will be approximately 11,700 gallons. Each site will receive the following:**

- (2) 3'x18' fiberglass ring tanks
- 3'x4' standard walk-in trough
- 24'x96' R-panel collection apron
- 150'x150' wildlife friendly piperail fence
- Required plumbing components

-Two remote digital monitoring cameras will also be purchased to monitor wildlife use at two of the sites

### **Phase 1- 2007/2008 Cycle**

1. Catchment 106 (Owl's Head #8) Redevelopment (**HIGHEST PRIORITY**)
2. Catchment 51 (96 Ranch #7) Redevelopment (if possible)

### **Phase 2- 2008/2009 Cycle**

3. Catchment 52 (96 Ranch #8) Redevelopment
4. Catchment 45 (96 Ranch #1) Redevelopment

### **Phase 3- 2009/2010 Cycle (if needed)\**

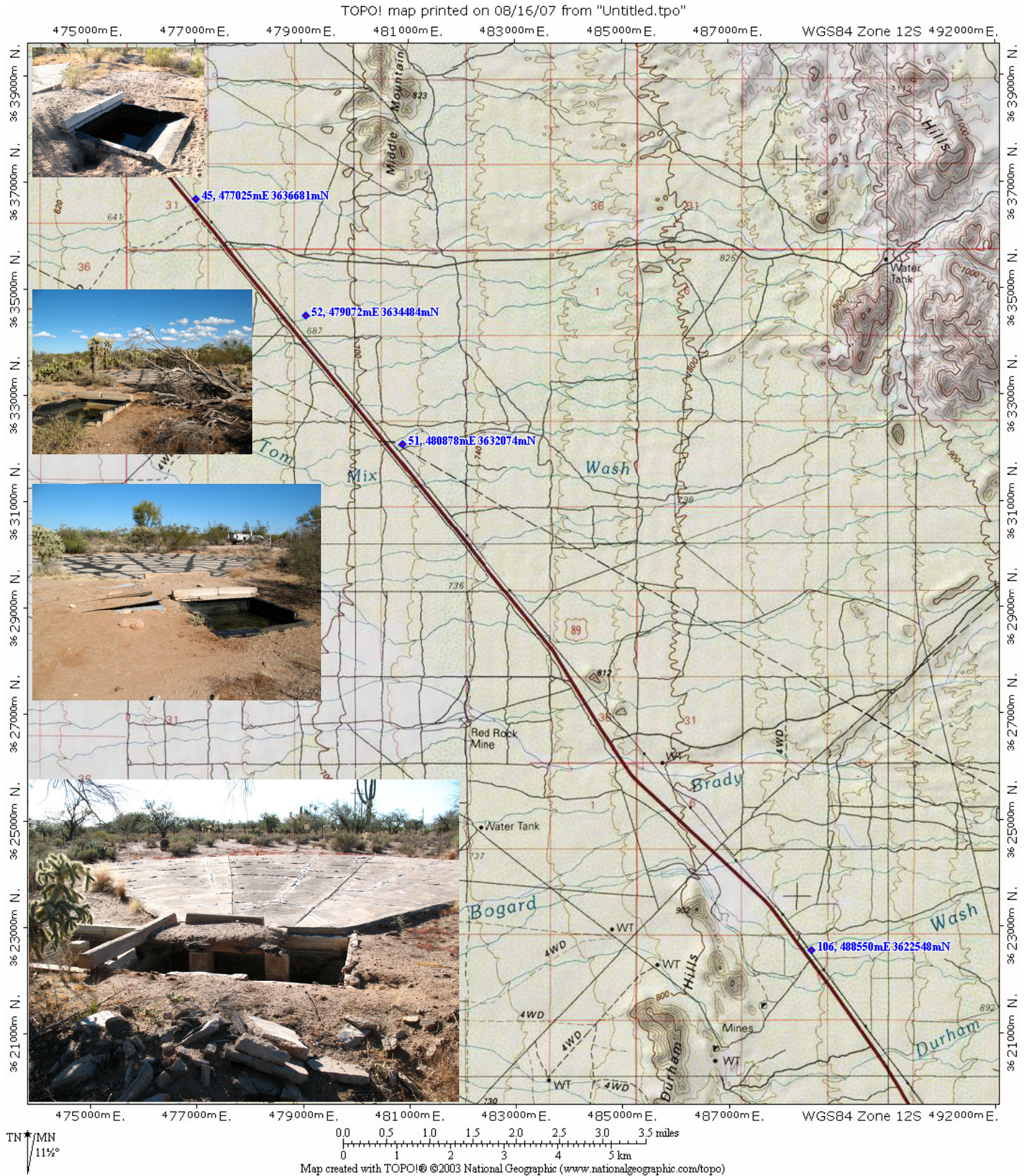
- Redevelopment of any remaining catchments not developed during phases 1 and 2.

### **PROJECT LOCATION:**

Game Management Unit 37B close to Highway 79.

- 45 – UTM Coordinates: 477025mE, 3636681mN
- 51 – UTM Coordinates: 480878mE, 3632074mN
- 52 – UTM Coordinates: 479072mE, 3634484mN
- 106 - UTM Coordinates: 488550mE, 3622548mN
- All NAD83/WGS84 Datum







**LAND OWNERSHIP AT PROJECT SITE (Please state specifically if PRIVATE PROPERTY and provide landowner's name):**

The project site is on land administered by the Arizona State Land Department, Tucson Field Office, 4455 S. Park Avenue Suite 101 Tucson, Arizona 85714 (520) 628-5480.

**IF PRIVATE PROPERTY, IS THERE A STEWARDSHIP AGREEMENT BETWEEN THE LANDOWNER AND THE DEPARTMENT?**

**HABITAT DESCRIPTION:**

Game management unit 37B is located in Pinal County, Arizona, southeast of Phoenix. Two main biotic community types, Sonoran Desertscrub and Semidesert Grassland, comprise the bulk of the habitat in 37B. The proposed catchments are located within the Paloverde-cacti-mixed scrub series of the Arizona Upland subdivision of the Sonoran Desertscrub community. Common vegetation includes foothill palo verde (*Cercidium microphyllum*), mesquite (*Prosopis spp.*), saguaro (*Carnegiea gigantea*), ocotillo (*Fouquieria splendens*), and triangle-leaf bursage (*Ambrosia deltoidea*). Average rainfall is approximately 13" and elevation is approximately 2850'.

**ITEMIZED USE OF FUNDS:**

- **11,700 gallon ring tank system without collection point(s)**

<u>Item</u>	<u>Dimensions</u>	<u>Cost</u>	<u>Cost Share</u>	<u>Funds Needed</u>
2-3'x18' fiberglass ring tank (5700g each)	3'x18' each	\$12,680		\$12,680
24'x96' R panel apron	24'x96'	\$7,390		\$7,390
3'x4' walk-in standard trough	3'x4'	\$2,110		\$2,110
Wildlife "friendly" livestock exclosure fence	150'x150'	\$2,500		\$2,500
Plumbing		\$1,000		\$1,000
Tax @ 8.1%		\$2,080		\$2,080
Labor		\$20,000	AGFD, Volunteers	\$0
Total		\$47,760		\$27,760

- **Remote Digital Monitoring Cameras (2) - \$500 each**

**LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:**

- The Martin Group, LLC - will donate their services to excavate catchment 106 using a CAT loader and will likely donate the same services for catchments 45, 51 and 52.
- Arizona Deer Association – volunteer labor
- Mule Deer Foundation – volunteer labor
- Local sportsmen solicited through Coues Whitetail.com – volunteer labor
- Coues Whitetail.com – advertise the project to generate volunteer interest
- Marshall MacFarlane – [www.arizonahuntingtoday.com](http://www.arizonahuntingtoday.com) – advertise the project to generate public and volunteer interest
- AGFD Development Branch – acquire the materials, transport the materials to the job site, provide any specialized equipment or tools required for the redevelopment, provide minimal (1-2) assistance for project supervision and oversight.
- ASLD – NEPA and Arch clearances

**PROJECT MONITORING PLAN:**

Remote digital cameras will be used to monitor density and frequency of wildlife water use during the months of May-July if cameras are available. This will enable the Wildlife Manager to make better informed decisions for the management of wildlife within GMU 37B.

Water levels will be monitored at least twice per year with emphasis during the warmer drier months by the Wildlife Manager. Additional monitoring will be conducted as needed. Minor maintenance will also be conducted as needed by the Wildlife Manager. The AGFD Development Branch will be responsible for major maintenance issues.

**PROJECT MAINTENANCE:**

The maintenance of each catchment will continue to be the responsibility of the AGFD. The Wildlife Manager will be responsible for coordinating this.

**PROJECT COMPLETION REPORT TO BE FILED BY:**

Ed Jahrke, Joe Currie or Ben Brochu

**WATER DEVELOPMENT PROJECTS (see attached worksheet):**

**TREE SHEARING (AGRA-AXE, PUSH) PROJECTS (see attached worksheet):**

## **ARIZONA GAME AND FISH DEPARTMENT WATER DEVELOPMENT WORKSHEET**

**PROJECT NAME: Redevelopment of Catchments 45, 51, 52, and 106 – Phase 1**

- 1) Is the water development listed as a priority in the most recent “Wildlife Water Development Annual Implementation Schedule?”**

Yes for all. Priorities are as follows: 106, 51, 52, 45 (highest to lowest).

- 2) Please list the Development Branch personnel and date coordinated with for this project.**

Joe Currie – 8-6-07

- 3) What is the estimated annual inches of precipitation for the area? (mark one)**

\_\_\_2-4 \_\_\_4-6 \_\_\_6-8 \_\_\_8-10 \_\_\_10-12 \_X\_12-14 \_\_\_14-16 \_\_\_>16

- 4) Is there a perennial water source available to big game within four miles of this project?**

\_\_\_X\_\_\_YES (please complete #5 below) \_\_\_NO (skip #5 below)

- 5) For the accessible, perennial water source nearest this project:**

**106**

Name of water source: Catchments 1134, 108, 103

Type of water source (catchment, spring, dirt tank, etc.): catchments

Ownership of water source: ASLD

Distance in miles from project: 2.26, 3.10, 3.24

**51**

Name of water source: Catchments 52, 102, 46, 101, 991, 48, 50, 49

Type of water source (catchment, spring, dirt tank, etc.): catchments

Ownership of water source: ASLD

Distance in miles from project: 1.83, 1.87, 2.16, 2.47, 2.50, 2.63, 3.5, 3.86

**52**

Name of water source: Catchments 46, 45, 991, 51, 101, 100, 48, 102

Type of water source (catchment, spring, dirt tank, etc.): catchments

Ownership of water source: ASLD

Distance in miles from project: 1.27, 1.74, 1.74, 1.83, 1.96, 2.34, 2.91, 3.75

**45**

Name of water source: Catchments 100, 52, 46, 991, 101, 51

Type of water source (catchment, spring, dirt tank, etc.): catchments

Ownership of water source: ASLD

Distance in miles from project: 1.16, 1.94, 2.41, 2.68, 2.86, 3.80

- 6) Is the target wildlife species a result of transplant efforts? \_\_\_YES \_\_\_X\_\_\_NO**

- 7) Please list any special land management status for the project site (i.e. Wilderness, National Park, National Monument, etc). If private land, list landowner.

N/A

- 8) Please provide the following information about access to the proposed site:

Type of access (mark one): ☒ 2x4 vehicles ☐ 4x4 only ☐ foot only\*\*

\*\*If foot access only: Distance in miles: Approx. hiking time:

-- Does access to this site require crossing private or tribal lands? ☐ YES ☒ NO

-- Please describe any restrictions to public access: None

- 9) Please list below (or on a separate sheet) the material type and dimensions of each component proposed to be added, modified, or repaired.

Item	Dimentions	Cost	Cost Share	Funds Needed
2-3'x18' fiberglass ring tank (5700g each)	3'x18' each	\$12,680		\$12,680
24'x96' R panel apron	24'x96'	\$7,390		\$7,390
3'x4' walk-in standard trough	3'x4'	\$2,110		\$2,110
Wildlife "friendly" livestock exclosure fence	150'x150'	\$2,500		\$2,500
Plumbing		\$1,000		\$1,000
Tax @ 8.1%		\$2,080		\$2,080
Labor		\$20,000	AGFD, Volunteers	\$0
Total		\$47,760		\$27,760

- 10) Was a site visit completed? ☒ Yes ☐ No

Site visits were completed with Joe Currie on 8-6-07 and with Rachel McGee (ASLD) on 8-23-07.